2. ALTERNATIVES INCLUDING THE PROPOSED ACTION

2.1. Introduction

To fulfill the stated Purpose and Need of providing safe and reliable electrical power while minimizing impacts to the environment, two alternatives are considered for management of the ROW—the Proposed Action and No-Action Alternative.

2.2. Description of the Proposed Action and No-Action Alternatives

2.2.1. Actions Common to the Proposed Action and No-Action Alternatives

The Proposed Action and the No-Action Alternative would grant rights-of-way on about 284 miles (Table 1-1) of federally administered public land for five existing Idaho Power transmission lines and associated appurtenances, including service roads within the rights-of-way (BLM ROW Application #IDI-34249). Rights-of-way on those portions of the transmission lines on private and state lands have previously been secured by Idaho Power though perpetual easements.

2.2.2.1. Description of Transmission Lines

The three 230-kV lines and two 345-kV lines consist primarily of H-framed wood structures (Table 2-1). Specific line descriptions are provided below. Dead-end or tangent structures may require three or four pole H-frame structures or guy wires for support. Recently, as the wood pole structures have degraded, H-frame tubular steel pole structures have been used as replacements. The steel pole structures require less maintenance and are resistant to destruction from wildfire, which is common in the project area. In addition, there are some steel lattice structures present.

Table 2-1. Number of structures, by type, present on the Boise-to-Borah transmission lines.

Line No.	Line Name	Wood H-Frame	Tubular Steel H-Frame	Laminated Wood H-Frame	Steel Lattice
902	Boise Bench to Midpoint #1 – 230 kV	863	11	0	5
906	Boise Bench to Midpoint #2 – 230 kV	868	0	0	17
912	Boise Bench to Midpoint #3 – 230 kV	474	0	224	24
950	Midpoint to Brady #1– 345 kV	624	48	0	0
951	Midpoint to Borah #2 – 345 kV	538	87	0	8

Safety is a primary concern with the project. The transmission lines are protected with power circuit breakers and line relay protection equipment. If conductor failure were to occur, the line would automatically be de-energized. The overhead ground wires above the conductors provide lightning protection.

The ROW for the Proposed Action and No-Action Alternatives are similar in length, but differ in amount of acreage encompassed because of varying ROW widths (Table 2-2).

Table 2-2. Length, width, and area of ROW on federal lands for the Proposed Action and No-Action Alternative.

Line No.	Line Name	Line Length (mi)		ROW Width (ft)		ROW Area[1] (ac)	
		Total	Federal Lands	Proposed Action	No-Action Alternative	Proposed Action	No-Action Alternative
902	Boise Bench to Midpoint #1 – 230 kV	108	58	80	80	582	582
906	Boise Bench to Midpoint #2 – 230 kV	105	54	100	150	659	989
912	Boise Bench to Midpoint #3 – 230 kV	107	77	100	150	938	1,407
950	Midpoint to Borah #1– 345 kV	79	46	150	80	828	442
951	Midpoint to Borah #2 – 345 kV	78	48	150	150	875	875

[1]approximate values, may not include additional acreage for guy wires

Boise Bench to Midpoint #1 line

The Boise Bench to Midpoint #1 line was constructed in 1950 with wooden two-pole H-frame structures. Some three-pole structures are used at angle points. The structures have a nominal height of 80 ft. The line extends easterly from Idaho Power's Boise Bench Substation in Ada County to Idaho Power's Midpoint Substation in Jerome County (Figure 1-1). The line was authorized under the Bliss Project FERC license with an 80 ft ROW plus additional width at guy wires. The same width is requested under the Proposed Action and No-Action alternatives. Approximate length on federal land is 58.2 miles—57.4 mi on BLM lands and 0.8 mi on BOR lands. The ROW encompasses about 582 acres, including area for anchors, on federal lands—574.5 acres on BLM and 7.8 acres on BOR lands.

Boise Bench to Midpoint #2 line

The Boise Bench to Midpoint #2 line was constructed in 1961 with wooden two-pole H-frame structures. Some five-pole structures are used at various locations such as angle points. The structures are typically 70 to 80 ft tall. The line extends easterly from Idaho Power's Boise Bench Substation in Ada County to Idaho Power's Midpoint Substation in Jerome County (Figure 1-1). The line was authorized under the Hells Canyon Project FERC license with a 150 ft ROW. A 100 ft ROW is requested under the Proposed Action alternative. Approximate length on federal lands is about 54.4 miles—53.9 mi on BLM and 0.5 mi on BOR lands. The ROW would

encompass about 659 acres on federal lands under the Proposed Action—653.8 ac on BLM and 5.8 ac on BOR lands.

Boise Bench to Midpoint #3 line

The Boise Bench to Midpoint #3 line was constructed in 1966 with wooden two-pole H-frame structures and some steel structures. Some five-pole structures are used at various locations such as angle points. The structures are typically 70 to 100 ft tall. The line extends easterly from Idaho Power's Boise Bench Substation in Ada County to Idaho Power's Midpoint Substation in Jerome County (Figure 1-1). The line was authorized under the Hells Canyon Project FERC license with a 150 ft ROW width. A 100 ft width is requested under the Proposed Action alternative. Approximate length on federal lands is about 77.4 miles—75.0 mi on BLM, 1.4 mi on BOR, and 1.0 mi on COE lands. The ROW encompasses about 938 acres on federal lands under the Proposed Alternative—909.5 ac on BLM, 16.9 ac on BOR, and 11.8 on COE lands.

A fiber optic communication wire replaces one of the two overhead ground wires. The fiber optic line is considered a separate use, authorized by BLM grant IDI-32607.

Midpoint to Borah #1 line

The Midpoint to Borah #1 line was constructed in 1950 with wooden two-pole H-frame structures and some steel structures. Some three-pole structures are used at angle points. The structures have a nominal height of 80 ft. The line extends easterly from Idaho Power's Midpoint Substation in Jerome County to Idaho Power's Borah Substation in Power County (Figure 1-1). The line was authorized under the Bliss Project FERC license with an 80 ft ROW width plus additional width at guy wires. A 150 ft width is requested under the Proposed Action alternative. This line was originally built as a 138-kV line. The width of the ROW was not expanded proportionally to the increase in capacity. The expanded ROW is proposed to meet current reliability and safety standards. Approximate length on federal lands is 45.6 miles—45.1 mi on BLM and 0.5 mi on BOR lands. Under the Proposed Action, the ROW encompasses about 828 acres on federal lands—819.6 ac on BLM and 8.6 ac on BOR lands.

Midpoint to Borah #2 line

The Midpoint to Borah #2 line was constructed in 1961 with wooden two-pole H-frame structures and some steel structures. Some five-pole structures are used at various locations such as angle points. The structures are typically 70 to 80 ft tall. The line extends easterly from Idaho Power's Midpoint Substation in Jerome County to Idaho Power's Borah Substation in Power County (Figure 1-1). The line was authorized under the Hells Canyon Project FERC license with a 150 ft right-of-way width. The same width is requested under the Proposed Action and No-Action alternatives. Approximate length on federal lands is 48.1 miles—44.7 mi on BLM and 3.5 on BOR. The right-of-way encompasses about 875 acres on federal lands—811.9 ac on BLM and 63.0 on BOR lands.

2.2.2.2. Operation and Maintenance Requirements

Idaho Power performs O&M activities to keep the project transmission lines operational and in good repair. These activities are either planned—such as those for routine patrols, inspections, scheduled maintenance, and scheduled emergency maintenance—or unplanned—such as those

for emergency maintenance in cases where public safety and property are threatened. O&M activities are the same for both the No-Action and Proposed Action Alternatives.

Typical O&M Activities for the Boise Bench to Midpoint #1, #2, and #3 lines

These lines run between the Boise Bench and Midpoint substations. They consist of a single 230-kV circuit primarily on H-frame wood structures. Occasional steel lattice structures also occur on the lines. Vegetation management is limited on these lines because of the lack of tall shrubs or trees in the ROW. Line clearing activities are conducted on less than 700 linear feet of ROW along each line. A ground patrol by a patrolman using a pickup or ATV occurs annually between April and October. The patrolman identifies line and structure conditions in need of repair. The ground patrol takes about 13 days to complete for each line. Follow-up, annual maintenance on each line would take about five days for a six-person crew to complete. A detailed climbing or aerial inspection of the structures, conductors, and associated hardware takes place approximately once every 10 years. During this inspection structural hardware is checked and tightened. It would take one four-person crew about 30 days to complete a line. Inspections can take place from April through October. Follow-up maintenance to the detailed inspection usually occurs the following year. A six-person crew may take up to 20 days to complete the follow-up maintenance. An inspection of the wood pole integrity takes place about once every 10 years. The inspection would take place between April and October or as soil conditions allow. It requires a single six-person crew about 20 days to complete each line. The follow-up replacement of deteriorated poles typically would take one six-person crew about 20 days to complete.

Typical O&M Activities for the Midpoint to Borah #1 and #2 lines

These lines run between the Midpoint and Borah substations in eastern Idaho. The lines consist of a single 345-kV circuit on H-frame wood or tubular steel structures. Vegetation management is limited on these lines because of the lack of tall shrubs or trees in the ROW. Line clearing activities are conducted on less than 300 linear feet of ROW along each line. A ground patrol by a single person using a pickup or ATV occurs annually between April and October. The ground patrol takes about 8 days to complete a line. Follow-up, annual maintenance would take about five days for a six-person crew to complete. A detailed aerial or climbing inspection of the structures, conductors, and associated hardware takes place approximately once every 10 years. Such an inspection can take place from January to May or from September through December, depending on weather. Follow-up maintenance to the detailed inspection usually occurs the following year. A six-person crew typically takes about 20 days to complete the follow-up maintenance. This maintenance requires the lines to be out of service. An outage window is available between May and August. An inspection of the wood pole integrity takes place about once every 10 years. The inspection can take place from April through October and requires about 15 days for a single six-person crew to complete each line. The follow-up replacement of deteriorated poles would likely take a six-person crew about 25 days to complete.

Emergency Situations

Emergency situations are those conditions that may result in eminent or direct threats to public safety or threaten or impair Idaho Power's ability to provide power to its customers. The following examples include, but are not limited to, real and potential emergency situations:

- Failure of conductor splices
- Lightning strike or wildfire resulting in burned wood pole structures
- Damage to structures from high winds, ice, or other weather-related conditions
- Line or system outages or fire hazards caused by trees falling into conductors
- Breaking or eminent failure of crossarms or insulators, which could, or does cause conductor failures
- Vandalism to structures or conductors from shooting or other destructive activities
- Idaho Power estimates about 3 emergency incidents per 10-year period on the 230-kV lines and about 5 incidents per 10-year period on the 345-kV lines, based on line age and prior incidences for these lines. The most common source of emergency situations is wildfire burning poles or the smoke causing flashover between the conductors.

2.2.3. Proposed Action

The Proposed Action is to grant rights-of-way on federally administered public land for five existing Idaho Power transmission lines (BLM ROW Application #IDI-34249). The Proposed Action would include expanding the ROW for the Midpoint to Borah #1 line from 80 ft to 150 ft to meet current NESC reliability standards and reducing the ROW for the Boise Bench to Midpoint #2 and #3 lines from 150 ft to 100 ft. The reduced ROW width would still meet NESC reliability standards.

In addition to typical O&M activities, as described above, the Proposed Action would include two options for reducing the threat of wildfire to destroy wood poles. One or both elements may be used. One element of the protection plan would be to reduce fuel loads around wood poles in fire prone areas. This would entail use of approved herbicides and vegetation clearing to control fuels within a 10-ft radius of wood poles. Herbicide treatments would be consistent with the Record of Decision on Vegetation Treatment on BLM Lands in Thirteen Western States (USDI 1991) or subsequent decisions regarding the use of herbicide on BLM managed lands. The second element of the treatment would be to apply a fire retardant covering to the base of wood poles. This treatment entails applying a water-based, heavy-duty coating designed to help protect wood utility poles from fire damage. It is hand applied. The treatment material would not contain any hazardous materials. One or both of the treatments may be applied, depending on site-specific circumstances. The specific treatment and materials used would be detailed on a site-specific basis in the Plan of Development (POD) and must be approved by the Authorized Officer prior to treatment. Herbicides would not be used in areas containing slickspot peppergrass and its habitat.

2.2.3.1. Permitted Uses

Land uses that are compatible with safety regulations may be permitted by the BLM in and adjacent to the ROW. Existing land uses such as agriculture and grazing generally have been permitted within the ROW. Incompatible land uses within transmission line ROW include construction and maintenance of structures or dwellings, and any use requiring changes in

surface elevation that would affect existing facilities. Compatible uses of the ROW on public lands would have to be approved by the BLM.

2.2.3.2. Applicant-Committed Environmental Protection Measures

The committed protective measures discussed in this section are measures that Idaho Power would include as part of the Proposed Action. These measures, designed to avoid or reduce the impacts of the Proposed Action, are organized by resource topics and discussed in Chapter 4 – Environmental Consequences.

These measures, and other specific plans, would be incorporated in the POD, which provides details on how O&M activities would be conducted and resources protected in the project area. The POD details additional measures required to minimize potential project impacts on natural resources and human safety. Plans typically include reclamation and revegetation of the ROW, resource protection measures, noxious weed control, fire prevention, hazardous spill prevention, and water pollution prevention.

Mitigation Measures Common to Several Resources

0-1. Idaho Power would provide an environmental inspector on projects that Idaho Power and the BLM mutually agree that such inspection is needed.

0-2. Roads would be maintained to have crossroad drainage in order to minimize the amount of channeling or ditches needed. Water bars would be installed at all alignment changes (curves), significant grade changes, and as requested by the BLM Authorized Officer.

0-3. All existing road drainage structures would be maintained or repaired by Idaho Power during O&M periods.

0-4. O&M activities would be temporarily halted where wet conditions cause excessive rutting of roads and/or work areas.

Cultural Resources

1-1. Before a ground disturbing O&M activity begins, known cultural sites would be marked to ensure that they be avoided and protected during the O&M activity. Marking would be coordinated with the BLM on a project basis. Personnel appointed by Idaho Power would mark the sites before maintenance or construction begins. After the project was complete or no longer posed a threat to the cultural resources, the stakes would promptly be removed to protect the site's significance and location from unwanted attention.

1-2. Any cultural and/or paleontological resource [fossil(s) or historic or prehistoric site or object] discovered by Idaho Power, or its designated contractor, on BLM land would be immediately reported to the Authorized Officer. Idaho Power would suspend all operations in the immediate area of such discovery until written authorization to proceed was issued by the Authorized Officer. Idaho Power would be responsible for the cost of evaluation. The Authorized Officer would make any decision as to proper mitigation measures after consulting with Idaho Power.

1-3. All human interments would be treated with the respect accorded them by state and federal laws applying to human remains. If the discoveries were unanticipated, state law does not distinguish between historic or prehistoric burials as far as what steps are required for initial notification or disinterment. If human remains were discovered during O&M activities, Idaho Power would stop all work in the immediate area to protect the integrity of the find and notify the county sheriff and BLM as soon as possible. In addition, the location of the find would be flagged or fenced off to protect it from further impacts. The BLM would determine what mitigation was necessary and, once the mitigation was complete, work could resume in the impacted area.

1-4. Prior to ground disturbing activities:

- All sites that were evaluated as "potentially eligible" for the National Register of Historic Places (NRHP) would be re-evaluated as either eligible or ineligible
- All sites that were evaluated as "eligible" for the NRHP, either in the survey report or by future reevaluation of potentially eligible sites, would have that designation resolved by additional work, including:
    - A nomination to the NRHP
    - An appropriate mitigation plan and determination of affect to assess a no affect, no adverse affect, or adverse affect as a result of the ROW, maintenance activity, or other future work
- All site forms submitted would be updated as appropriate and sent to the appropriate BLM office and the State Historic Preservation Officer, particularly those mentioned in the above text

Botanical Resources

2-1. When ground disturbing O&M activities occur in areas harboring threatened, endangered, or sensitive (TES) plant species, the known sites would be marked on the ground to ensure that the species be avoided and protected. Marking would be coordinated with the BLM on a project basis. After the project was complete or no longer posed a threat to the sensitive resources, the stakes would promptly be removed to protect the site's significance and location from unwanted attention.

2-2. If sensitive species were found before or during ground disturbing O&M activities, Idaho Power would establish a 100-ft buffer zone around the species or population and then contact the BLM immediately. Until the BLM authorized Idaho Power to proceed, either orally or in writing, all activities would cease within the 100-ft buffer zone.

2-3. To decrease chances of incidental disturbance and spread of weeds, personal vehicles, sanitary facilities, and staging areas would be confined to a limited number of specified locations. For prolonged O&M projects, maintenance equipment, materials, and vehicles would be stored at the sites where activities would occur or at specified maintenance yards.

2-4. To reduce the potential for introduction or spread of undesirable exotic vegetation, the responsible party would clean all equipment that may operate off-road or disturb the ground before beginning O&M activities within the project area. Preferably, the cleaning would occur at an Idaho Power operation center, commercial car wash, or similar facility. Vehicles traveling only on established roads would not be required to be cleaned.

2-5. To help limit the spread and establishment of a noxious weed community within the disturbed areas, prompt establishment of the desired vegetation would be required. Seeding would occur as soon as possible during the optimal period after construction. Certified "noxious weed-free" seed would be used on all areas to be seeded. Other construction material, such as fill, would also be free of noxious weed seed.

2-6. For major O&M activities requiring ground disturbance, Idaho Power would prepare a revegetation plan in consultation with the BLM. The plan would specify appropriate revegetation techniques to be applied. Techniques could include reseeding native or other acceptable plant species.

2-7. Highly competitive nonnative plant species, such as crested wheatgrass, intermediate wheatgrass, and forage kochia, would not be used in revegetation actions occurring in areas that contain slickspot habitat.

Wildlife Resources

3-1. Idaho Power would follow the same project-level protocols for TES wildlife species as for rare plants (2-2), where applicable. After consultation with the BLM the 100-ft buffer would be adjusted to fit the species and situation.

3-2. With the exception of emergency repair situations, O&M activities in designated areas would be modified or curtailed during sensitive periods (e.g., nesting and breeding periods) for known locations of candidate, proposed, threatened, and endangered, or other BLM listed sensitive animal species. This would include raptor species listed in Table 4-1. The Authorized Officer listed in the POD would approve sensitive areas and timeframes.

3-3. No major O&M activities shall occur between November 15 and March 15 within 0.25 mi (400 m) of wintering bald eagle perch trees or roost locations within the project area ROW without primary consultation with the BLM and the USFWS.

3-4. No major O&M activities shall occur between March 1 and June 1 within 0.62 mi (1 km) of active sage grouse leks. Fall reseeding is preferred near leks. If spring reseeding is necessary, activity should not occur before 11:00 am from March 1 to May 1. In addition, spring helicopter flights within 0.62 mi would be done after 11:00 am.

3-5. Reports of avian collision with project lines would result in a follow-up evaluation by Idaho Power. Guidelines in APLIC (1994) would be followed if corrective action is needed.

Land Use

4-1. If existing improvements are damaged by construction activities they would be repaired or replaced, as agreed to by the parties involved.

4-2. If fences and gates are damaged or destroyed by O&M activities, they would be replaced to their original condition as required by the BLM.

Visual Resources

5-1. No permanent paint or discoloring agents would be applied to rocks or vegetation to indicate limits of survey or O&M activity.

5-2. If conductor replacement were necessary, non-specular conductors would be used to reduce visual impacts.

2.2.4. No-Action Alternative

The No-Action Alternative is defined as the continuation of present management. For this project, the No-Action Alternative would be the granting of rights-of-way for the project transmission lines with the same conditions as are presently in the FERC licenses. The No-Action Alternative would result in three major differences from the Proposed Action: 1) no new conditions to protect the environment and associated resources from potential O&M impacts, 2) no change in the width of ROW, and 3) no fuel reduction or wood pole treatment for protection against fire. Federal regulations on threatened and endangered species would protect some resources regardless of the alternative.

2.2.4.1. Conditions of the FERC Licenses

The Hells Canyon (Project No. 1971) and Bliss (Project No. 1975) FERC licenses included several articles intended to protect resources from transmission-line related O&M impacts. The following are articles of the original FERC licenses concerning transmission lines:

Hells Canyon License, Article 12 and *Bliss License, Article 15*—The Licensee shall clear such portions and only such portions of transmission line right-of-way across lands of the United States as are designated by the officer of the United States in charge of the lands; shall conduct its clearing operations in conformity with the specifications provided by such officers; shall keep the designated areas clear of new growth, all refuse and inflammable material to the satisfaction of such officer; shall trim all branches of trees in contact with or liable to contact the transmission lines; shall cut and remove all dead or leaning trees which might fall in contact with transmission lines; and shall take such other precautions against fire as may be required by such officer. No fires for the burning of waste material shall be set except with the prior written consent of the officer of the United States in charge of the lands as to time and place, and burning shall be in accordance with the burning permit or instructions issued by that officer. All stems over three inches in diameter would be cut from the stump as close to the ground as practical. The stems and stumps would not be pushed over prior to cutting. No stumps would be removed unless absolutely necessary for the construction of towers, access roads or erosion control structures.

Licensee may dispose of the debris crated in clearing either by chipping or burning. If chipped, chips shall be spread outside the area immediately under the wires in such a manner that their loose depth does not exceed six (6) inches. If burned, the piles shall be constructed free of dirt so as to readily burn, and shall be placed at or near the center of the cleared area to prevent damage

to trees or other vegetation. Any burning shall be done in conformity with the requirements of any applicable Federal, State or local air pollution control ordinances and regulations.

Hells Canyon License, Article 50 and *Bliss License, Article 36*—The Licensee shall minimize disturbances of natural ground. The Licensee shall be responsible for and shall minimize soil erosion and siltation on lands within and adjacent to the project resulting from construction and operation thereof. The Commission upon request, or upon its own motion, may order the Licensee to construct and maintain such preventive works to accomplish this purpose and to revegetate exposed soil surface as the Commission may find to be necessary after notice and opportunity for hearing.

All areas of United States land where the soil has been disturbed by clearing or construction would be reseeded with suitable grass seed and selected browse species. To control soil movement and assist the establishment of vegetative cover, terracing, cross ditching and/or water spreading ditches may be required. All soil erosion structures and revegetated areas shall be maintained by the Licensee until they become stabilized. Licensee would protect revegetated areas from grazing use during establishment and for three years thereafter.

Hells Canyon License, Article 61—If any previously unrecorded archeological or historic sites are discovered during the course of construction or development of any project works or other facilities at the project, construction activity in the vicinity shall be halted, a qualified archeologist shall be consulted to determine the significance of the sites, and the Licensee shall consult with the State Historic Preservation Officer (SHPO) to develop a mitigation plan for the protection of significant archeological or historic resources.

Hells Canyon License, Article 401—The Licensee shall design and construct the transmission line in accordance with guidelines set forth in *Suggested Practices for Raptor Protection on Power Lines* (Olendorff et al. 1981).

The Licensee shall consult with the U.S. Fish and Wildlife Service and the U.S. Forest Service in adopting these guidelines, and shall develop and implement a design that would provide adequate separation of energized conductors, groundwires, and other metal hardware, adequate insulation, and other measures necessary to protect raptors from electrocution hazards.

Bliss License, Article 17—The Licensee shall do everything reasonably within its power and shall require its employees, contractors, and employees of contractors to do everything reasonably within their power, both independently and upon request of officers of the agency concerned, to prevent, make advanced preparations for suppression, and suppress fires on lands occupied under the license.

2.3. Description of Alternatives Considered but Eliminated from Detailed Study

Two other transmission-line rights-of-way alternatives were considered in addition to the proposed project:

1. Continue the authorization of the rights-of-way under FERC pursuant to a FPA withdrawal
2. Terminate the need for the rights-of-way by decommissioning the transmission lines

The first alternative was eliminated from further consideration based on a decision that the lines no longer meet the criteria of a primary transmission line as defined by FERC. This decision by the FERC promulgated the Proposed Action.

The second alternative to remove the lines was eliminated from detailed study because it does not meet the objective of providing safe, reliable power to customers in Idaho Power's service territory. These lines are critical to Idaho Power's transfer of bulk electrical power to meet electrical load demands in Idaho Power's service territory. The Midpoint to Borah lines are the primary lines that bring in bulk power from the Jim Bridger thermal plant in Wyoming to the eastside of Idaho Power's service territory. The Boise Bench to Midpoint lines are critical to providing bulk power to the Treasure Valley, particularly in low water years. In addition, these lines are critical to system stability and security because they provide for a parallel path in the event that Pacificorp's Midpoint to Summer Lake 500-kV line has a fault or is de-energized for any reason. Decommissioning these lines would result in insufficient, and therefore unreliable, power delivery to a large portion of Idaho Power's customers. It would also result in instability to the entire interconnected, western system transmission grid, causing impacts to power delivery and reliability throughout the Northwest.

2.4. A Comparison of Environmental Consequences

Measurement	No-Action Alternative	Proposed Action Alternative
1. Potential to provide safe and reliable electrical transmission	Moderate due to the increased risk of emergencies from wildfire burning wood poles.	High due to reduction of risk to wood poles from wildfire because of fuel treatment and pole protection.
2. Potential impacts to the environment	Moderate opportunity for impact or destruction of critical resources from O&M activities by not identifying resource sites of concern prior to actions and from less restricted timing and location of activities.	Low due to increased measures to protect resources, including restricting the timing and location of potential impacting O&M activities and identification of sensitive sites prior to activities commencing.
2a. Cultural resources	Moderate. Less comprehensive and direct protection would be afforded to sites that have NRHP determinations in question (i.e., sites that are potentially eligible have not had a determination of effect made and no mitigation plan developed to protect the site).	Low. Identified cultural sites would be staked and protected prior to ground disturbing O&M activities. O&M activities that potentially may disturb a cultural site would have an authorized protection or mitigation plan.

Measurement	No-Action Alternative	Proposed Action Alternative
2b. Sensitive plant resources	Moderate. No site-specific protection measures would be incorporated to protect populations in the ROW.	Low. All activities occurring near sensitive plant sites would be reviewed prior to O&M activities occurring. Protection measures include creating exclusion areas around sensitive plant populations when ground-disturbing activities may be occurring.
Utes ladies'-tresses	None. No populations occur in the project area and no impacts to potentially suitable habitat are expected.	None. No populations occur in the project area and no impacts to potentially suitable habitat are expected.
Slickspot peppergrass	Moderate potential exists for inadvertent impacts to suitable habitat from O&M activities.	Low. Protection measures include conducting site-specific surveys prior to ground disturbing O&M activities in potential habitat. All identified populations and habitat would be considered an exclusion area. Any unavoidable impacts would require consultation with the BLM and USFWS.
2c. Sensitive wildlife species and habitat	Moderate for non-threatened and endangered species. No protection of resources, including restricting the timing and location of potentially impacting O&M activities or identification of sensitive sites prior to activities commencing.	Low for non-threatened and endangered species due to increased protection of resources by including restricting the timing and location of potentially impacting O&M activities and identification of sensitive sites prior to activities commencing.
Bald eagle	Low due to implementation of federally mandated protective measures for nests, roosts, and perches, including restricting the timing and location of potentially impacting O&M activities near sensitive sites.	Low due to protection of nests, roosts and perches by restricting the timing and location of potentially impacting O&M activities and identification of sensitive sites prior to activities commencing.
Gray wolf	None. Extremely unlikely to be present. If found, federal policy would include restricting the timing and location of potential impacting O&M activities.	None. Extremely unlikely to be present. If found, project protective measures would include restricting the timing and location of potential impacting O&M activities.
Aquatic snails (Utah valvata, Snake River Physa, Banbury Springs limpet, Bliss Rapids snails, and Idaho springsnail)	None. No aquatic O&M activity. and Measures to protect water quality during off-site activities would prevent negative effects.	None. No aquatic O&M activity. Measures to protect water quality during off-site activities would prevent negative effects.
Yellow-billed cuckoo	None. Extremely unlikely to be present. If found, federal policy would include restricting the timing and location of potential impacting O&M activities.	None. Extremely unlikely to be present. If found, project protective measures would include restricting the timing and location of potential impacting O&M activities.

3. AFFECTED ENVIRONMENT

This section presents a description of the existing environmental setting that may be affected by operation and maintenance of the Boise-to-Borah transmission lines (Proposed Action). Potential resource impacts from the Proposed Action and suggested protective measures are described in Chapter 4. This chapter is organized as follows:

3.1. General Project Setting

3.2. Cultural Resources

3.3. Threatened, Endangered, and Sensitive Plant Species

3.4. Threatened, Endangered, and Special Status Wildlife Species

3.1. General Project Setting

3.1.1. Physiography and Geology

The five transmission lines (cumulatively referred to as the *project corridor*) run mostly north of the Snake River, following the arc of the Snake River plain, which makes up roughly half of the Columbia Intermontane geomorphic province. This province extends from northeast Idaho, south and west across a wide portion of the lower part of the state to the Oregon border, where it curves north to follow Idaho's western border as far as southeast Washington. A dominant feature of the project corridor is the expansive level plains formed by multiple flows of relatively recent basalt. In addition, the province contains mountains formed by block-faulting and other more complex geologic processes, as well as numerous types of older rocks and thick deposits of loess (Ross & Savage 1967).

The Midpoint to Borah #1 and #2 lines, in their entirety, run from just west of the town of American Falls to the Midpoint substation, south of Shoshone, passing through the Eastern Snake River plain section (Figure 1-1). Elevations rise and fall gradually from west to east on this homogeneous lava plateau, however the region is so large that it appears basically flat, with only occasional relief provided by low shield volcanoes, cinder cones, and lava ridges. The basalt flows that characterize the Eastern Snake River plain are all relatively recent depositions of Neocene age. Due to the porous nature of these lavas, the plain remains mostly unmarked by stream channels, and, other than the Snake River, few perennial streams are present (Ross & Savage 1967).

Starting from the Midpoint substation, the Boise Bench to Midpoint #1, #2, and #3 lines head west (Figure 1-1), passing through the northern part of the Malheur-Boise-King Hill section. Most of this section is also characterized by essentially flat topography, rising gradually from west to east. However, the basalt flows in this region are generally older than those of the Eastern Snake River plain section, and exhibit complex interbedding with thick Miocene and

Pliocene lacustrine and fluviatile sediments. In addition, the network of stream channels in the Malheur-Boise-King Hill section is relatively dense, and perennial streams include portions of the Snake, Bruneau, Boise, and Payette rivers (Ross & Savage 1967).

The topography associated with the project corridor reflects these general geomorphic divisions. For about 75 miles, from American Falls west to Shoshone, the Midpoint to Borah #1 and #2 lines travel down a very gradual west-facing plain, with only gentle slopes and minor undulations in terrain, apart from the steeper slopes of Kimama Butte. The elevation at the easternmost segment of public lands, 7.3 air mi west of American Falls, is approximately 4,000 ft above mean sea level. At the western end, the elevation at Midpoint Substation is 3,900 ft. The high elevation point of the entire project corridor is located on the north slope of Kimama Butte, at approximately 4,870 ft. A few shallow, dry draws occur within this portion of the project area, however man-made canals are the only perennial water courses present.

In the central section of the project corridor the Boise Bench to Midpoint #1, #2, and #3 lines head west from the Midpoint Substation (3,900 ft), travel in separate directions for about 50 mi, and then come within about 5 mi of each other west of King Hill Creek. Many ephemeral and perennial streams are present throughout this section of the project corridor. The Boise Bench to Midpoint #1 line passes through abrupt changes in topography, as it travels up and down steep slopes and across flat benches, crossing the Snake River four times. Elevations on the various benches range from 2,900 to 3,400 ft. The low elevation point of the project corridor, 2,575 ft, is located on the east bank of the Snake River at river mile 557, where the lines exit a segment of BLM lands to cross the river into Swiss Valley. The Boise Bench to Midpoint #3 line heads northwest from the substation and changes little in elevation as it crosses Little Wood River, Big Wood River, Clover Creek, and King Hill Creek. Finally, at Little Canyon Creek it is at its highest elevation for this section at 4,000 ft. The Boise Bench to Midpoint #2 line heads west from the substation and later northwest, crossing the Malad River and King Hill Creek. The southern shore of Pioneer Reservoir is within 800 ft of the line on BLM lands in this part of the corridor. At Little Canyon Creek, the #2 line is within 1 mi of the Boise Bench to Midpoint #1 line and they are both at 3,400 ft.

The western section of the project corridor covers about 50 mi northwest from Little Canyon Creek (a point north of Glenns Ferry, Idaho) to Boise, Idaho. The project corridor cuts across an expansive, undulating southwest-sloping plain that is incised by numerous gentle- to steep-walled stream draws, which are also aligned along a southwest-northeast axis. Average elevations in this section of the project area are about 3,500 ft. High elevation points are located on top of Lucky Mountain (4,100 ft) and across Slater's Flat (3,900 ft). A low elevation of 3,000 ft is found at the westernmost segment of BLM lands, 0.5 mi southeast of the Boise Bench substation. The substation, which is located on private lands, marks the low elevation point for this portion of the project corridor, at 2,840 ft. Many ephemeral and perennial streams are present throughout this section of the project corridor, including Alkali, Canyon, Indian, Soles Rest, and Black's creeks. The eastern shore of Hot Springs Creek Reservoir is also located on BLM lands in this part of the corridor.

3.1.2. Soils

As a result of Idaho's complex geological history, and varied topography, climate, and vegetation, there are numerous types of soils found in the state. The Columbia Intermontane geomorphic province is characterized by a range of grassland soils, with light colored arid soils prevalent across the southern half of the region (Ross & Savage 1967). The soils within the majority of the project corridor fall into the Aridisol Order (soils which lack sufficient moisture for most types of plants, and which tend to become salty). The majority of the project Aridisols can be further classed into four suborders, which are defined by their accumulation of, or action on, materials such as carbonates (Calcids), clay (Argids and Cambids), or silica (Durids). The eastern end of the project area is dominated by Calcids, which give way to Argids and Cambids in the central section of the project area. Durids are the leading soil suborder in the west half of the project area, with inclusions of Cambids (NRCS 1999).

The only other major soil order present in the project corridor is a relatively small area of Entisols near the eastern end, southeast of the Wapi lava flow. Entisols are soils with no definite soil horizons, generally due to active erosion or deposition. Two entisolic suborders, mainly Orthents but also Psamments, are present. Both of these suborders contain sand at all depths, but Orthents tend to have finer sand, as well as some gravel (NRCS 1999).

3.1.3. Climate

A number of weather reporting stations are located in the vicinity of the project area. Temperature and precipitation data from five of these stations, representing various points along the length of the project area, are summarized (Western Regional Climate Center 2002a, b, c, d, e). From east to west, these stations are: American Falls (at the east end of project area); Minidoka (approximately 32 mi west of American Falls); Hagerman (approximately 104 mi west of American Falls); Mountain Home (approximately 143 mi west of American Falls); and Boise Airport (just beyond the west end of the project area). Average annual maximum temperatures range from 15.4ºC at Minidoka to 19.7ºC at Hagerman. This is likely due to differences in elevation between the stations (4,291 ft above mean sea level at Minidoka, and 2,880 ft at Hagerman). Average minimum temperatures range from -1.0ºC at Minidoka to 4.1ºC at the Boise Airport station (also much lower than Minidoka). For all five stations, January is the coldest month (except at Hagerman where December is the coldest), and July is the hottest.

The average annual precipitation for these stations ranges from 24 centimeters (cm) at Minidoka to 30 cm at Boise. Peak precipitation months vary from east to west, with highest average precipitation occurring in May for American Falls and Minidoka, and in January or December for Boise, Mountain Home, and Hagerman. Average annual snowfall varies greatly between the five stations from a low of 9 cm at Hagerman to 74 cm at American Falls.

3.1.4. Vegetation

The entire project area is in the Shrub-Steppe vegetation province, with the largest portion occurring in the Big Sagebrush zone, as defined by Frenkel (1992). Vegetation within the Big Sagebrush zone is dominated by *Artemisia tridentata* (big sagebrush), as well as other shrubs,

over a grass layer dominated by bunchgrasses (predominantly *Poa secunda* [Sandberg's bluegrass] within the project area). In many areas, disturbance has produced communities where *Bromus tectorum* (cheatgrass) or *Taeniatherum caput-medusae* (medusahead) dominate the grass layer. A small portion at the eastern end of the project area is in the Desert Shrub Zone Complex, and is dominated by plant communities that tolerate sandy soils.

Several riparian areas associated with rivers, springs, seeps, and small creeks are also present in the project area. These habitats are typically degraded from heavy cattle use, and much of the riparian vegetation has been removed. Common riparian associates include *Typha latifolia* (cattail), *Elaeagnus angustifolia* (Russian olive), *Dipsacus sylvestris* (teasel), and various *Veronica* (speedwell) species.

3.1.5. Land Use

Approximately 62% of the 477 miles of ROW are located on federal lands. These federal lands are managed primarily by the BLM, although less than 1% of the total ROW length is on lands under the jurisdiction of the BOR. Much of the management of BOR lands is administered by the BLM. On these federal lands, cattle grazing is the primary land use, although numerous other activities take place. Dispersed recreation activities (primarily hunting) occur throughout the project area. Some fishing also occurs, principally in the Hagerman Valley and other areas near the Snake River, where water is relatively plentiful. Non-consumptive activities, such as hiking and camping, also take place throughout the project area, although, these activities are primarily associated with the areas near the Snake River. Other activities occur on a limited basis, associated with particular geographic features. These include rock hounding, spelunking, and target shooting.

Off-road vehicles use the public lands throughout the project area, although no areas of heavy, concentrated use are located near the lines. The service roads and access roads associated with the lines are also used for other purposes such as stock maintenance, hunter access, and general recreational driving. County and other roads also cross the project corridor in limited locations.

3.2. Archaeological and Historical Resources

The BLM is responsible for identifying, protecting, managing, and enhancing archaeological, historic, architectural, and traditional lifeway values located on BLM lands, as well as those that might be affected by BLM undertakings on non-federal lands. Some of the legislation and implementing regulations governing cultural resource management include the following: the National Historic Preservation Act of 1966 (NHPA), as amended; the Archaeological Resources Protection Act of 1979 (ARPA); the American Indian Religious Freedom Act of 1978 (AIRFA); and the Native American Graves Protection and Repatriation Act of 1990 (NAGPRA). The Federal Land Policy Management Act of 1976 (FLPMA) states that public lands would be managed in a manner "that would protect the quality of...historical...and archaeological values"; the National Environmental Policy Act of 1969 (NEPA) and NHPA provide the objective to coordinate plans and functional programs and resources so as to preserve and protect important cultural resources early in the project planning process. Traditional lifeway values are usually

identified through consultation with tribal officials. The AIRFA, NHPA, and certain treaty rights guarantee access, use, and protection of traditional cultural properties, religious sites, and sacred objects. The identification and evaluation of traditional cultural properties is described in "Bulletin 38" (Parker and King 1994).

The BLM has a National Programmatic Agreement with the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers and Idaho BLM's State Protocol Agreement with the Idaho State Historic Preservation Office that provide further guidance on BLM's responsibilities for implementation of the NHPA and Section 106.

Section 106 of the NHPA requires federal agencies to take into account the effects of their undertakings on historic properties, and afford the Advisory Council on Historic Preservation a reasonable opportunity to comment. The historic preservation review process mandated by Section 106 is outlined in regulations issued by the Council. These regulations, "Protection of Historic Properties" (36 CFR 800), became effective June 17, 1999.

3.2.1. Historical and Archaeological Inventories

Idaho Power conducted class III archaeological and historical resource surveys on the five transmission lines in 1997. In addition, a supplemental class III survey was conducted in 2002 on the Midpoint to Borah #1 line to include the proposed ROW expansion from 80 ft to 150 ft. The surveys and subsequent results are described in the following reports:

- Cultural Resources Survey of Idaho Power Company Transmission Line 902 between Boise Bench Substation and Midpoint Substation—Ada, Elmore, Gooding, Twin Falls, and Jerome Counties, Idaho (Gross and Wildt 1997)

- Cultural Resources Survey of Idaho Power Company Transmission Lines 906 and 912: Boise Bench to Midpoint Substation—Ada, Elmore, Gooding, and Lincoln Counties, Idaho (Chatters and Ferguson 1997)

- Cultural Resources Survey for Idaho Power Transmission Line 950: Midpoint to Borah—Jerome, Lincoln, Minidoka, Blaine, and Power Counties (Mauser 1997a)

- Cultural Resources Survey of Idaho Power Company Transmission Line 950: Midpoint to Borah—Jerome, Lincoln, Minidoka, Blaine and Power Counties, Idaho (Mauser and Parvey 2003)

- Cultural Resources Survey of Idaho Power Transmission Line 951: Midpoint to Borah—Jerome, Lincoln, Minidoka, Blaine and Power Counties (Mauser 1997b)

The BLM and Idaho SHPO assessed these surveys in a report titled "Compliance Report Review for the Idaho Power/FERC Power Line Right-of-Way Transfer." The BLM compliance report and the survey reports are on file with the Idaho SHPO and BLM; however, they are exempt from Freedom of Information Act requests to protect the confidentiality of archaeological and historical resource sites. The Idaho SHPO comments are provided in Appendix 3 and all historic and prehistoric sites are listed in Appendix 4.

3.2.2. Prehistoric and Historic Sites

The BLM and Idaho SHPO reviewed the transmission-line survey reports, as well as previously conducted surveys in the project area, and determined that 29 early Native American sites and 6 historical sites are eligible for the NRHP. Six early Native American sites and two historic sites are potentially eligible. Six eligible sites and five potentially eligible sites that were recorded during previous surveys are not identified as to whether they are early Native American or historical features. In total, 41 eligible sites and 13 potentially eligible sites occur in the project area (Table 3-1). Early Native American sites included resources such as lithic scatters, shelters, cairns, hunting blinds, and projectile points. Historical sites included resources such as canals, railroads, rock walls, and diversion dams. Sites described as 'unevaluated' in the survey reports are included here as potentially eligible sites.

Table 3-1. Number of prehistoric and historic sites within the Boise to Borah line ROW on federal lands.

Line No.	Line Name	Class III Survey Area (Percent[1])	Prehistoric and Historic Sites[2, 3]		
			Eligible	Potentially Eligible	Ineligible
902	Boise Bench to Midpoint #1 – 230 kV	100	—	9	10
906	Boise Bench to Midpoint #2 – 230 kV	100	6	5	4
912	Boise Bench to Midpoint #3 – 230 kV	100	16	4	19
950	Midpoint to Brady #1– 345 kV	100	9	—	32
951	Midpoint to Borah #2 – 345 kV	100	10	—	20
	Total		41	13	85

[1] area covered on federal lands

[2] eligibility for the National Register of Historic Places

[3] these include new and previously recorded sites

3.2.3. Native American Indian Concerns

Public lands within the project area managed by the BLM are the ancestral homelands of the Shoshone-Paiute Tribes of the Duck Valley Reservation in Nevada and some of the bands/tribes of the Shoshone-Bannock Tribes in southeastern Idaho (collectively referred to as "the Tribes" in this document). The project lines do not cross any of the Indian Reservations. Federally recognized Indian tribes, including the Tribes, have rights to and/or interests in public lands administered by the BLM. The Tribes are dependent upon the lands for a myriad of uses. The lands provide social and economic value to the American Indian people as well as spiritual and cultural uses. Through past discussions with the Tribes, the BLM is aware of their desire to capitalize on opportunities that maintain or enhance resources critical to the exercise of treaty rights, traditional customs, subsistence, and cultural use purposes.

The Shoshone-Paiute Tribes' current reservation includes 294,242 acres in Idaho and Nevada. The reservation is headquartered in Owyhee, Nevada, and the Tribal government resides there. The principal revenue sources of the Shoshone-Paiute Tribes are farming and ranching. Business and land leases and grazing permits also provide income to the Shoshone-Paiute Tribes. The area

is geographically isolated and economically depressed. The people are tied culturally and spiritually to the land, and they are very interested and involved in helping to shape how the land is managed by the BLM. The Shoshone-Paiute Tribes are particularly concerned about cultural resources on public land, as well as subsistence, spiritual, and traditional uses. In 2003, the Shoshone-Paiute Tribes reported 1,918 members (pers. comm. Shoshone-Paiute Tribal Enrollment Office, April 2003).

The Shoshone-Bannock Tribes have reserved treaty rights under the Fort Bridger Treaty of 1868 which extend to unoccupied federal lands off-reservation. Reserved treaty rights typically include hunting, fishing, pasturing of animals (grazing), erecting of curing structures, trapping, and gathering. Their current reservation includes 544,000 acres in southeast Idaho. The Tribal government is headquartered in Fort Hall, Idaho. The Shoshone-Bannock Tribes derive income from leases (business and land), mineral rights, and some agriculture. There are a number of tribal industries, and grazing permits also provide income to the Shoshone-Bannock Tribes. The Shoshone-Bannock Tribes are extremely interested in protection of the public lands and resources related to the exercise of their reserved treaty rights, as well as cultural resources, subsistence, spiritual, and traditional uses. In 2003, the Shoshone-Bannock Tribes reported approximately 4,561 members (pers. comm., Shoshone-Bannock Tribal Enrollment Office, April 2003); about 75 percent live on the reservation.

The BLM contacted all of the Tribes upon receiving Idaho Power's application. The BLM discussed the Proposed Action with the Shoshone-Paiute Tribes at the February, March, and July 2003 "Wings and Roots" meetings, a forum for BLM-Tribal coordination. The Shoshone-Bannock Tribal Council was also represented at the March 2003 meeting by Adrian Seaman, Tribal Council Member and by Yvette Tuell, Environmental Program Manager. Numerous additional attempts, through telephone calls, emails, and visits to the Fort Hall Reservation, have been made by the BLM to discuss the project in more detail with the Shoshone-Bannock tribal council and staff. No issues related to traditional cultural use areas or places or sacred sites have been received to date.

3.3. Threatened, Endangered, and Sensitive Plant Species

Idaho Power conducted rare plant surveys on public lands within the ROW of the five transmission lines. The Boise Bench to Midpoint #2, #3, and Midpoint to Borah #2 lines were surveyed in 1999 and 2000 (Dumas et al. 2002). The Boise Bench to Midpoint #1 and Midpoint to Borah #1 lines were surveyed in 2002 (Krichbaum and Horvath 2002). All plant species on the USFWS list (Table 1-3) were included in the surveys, and all but one species on the BLM sensitive plant species list were surveyed (Table 3-2). Idaho Power field surveys did not locate any USFWS endangered, threatened, proposed, or candidate plant species. Two plant species on the BLM sensitive species list were identified in the project area.

Table 3-2. Bureau of Land Management sensitive plant species with potential for occurrence within Boise to Borah transmission-line rights-of-way.

Latin Binomial	Common Name	FWS[1]	BLM[2]	INHP[3]
Allium anceps	two-headed onion		3	2
Astragalus atratus var. inseptus	mourning milkvetch	SC	3	3
Astragalus diversifolius	meadow milkvetch		3	2
Astragalus oniciformis	Picabo milkvetch		3	3
Astragalus purshii var. ophiogenes	Snake River milkvetch		3	3
Astragalus tetrapterus	four-wing milkvetch		3	1
Chaenactis stevioides	desert pincushion		4	2
Cuscuta denticulata	sepal-tooth dodder		3	1
Cymopterus acaulis var. greeleyorum	Greeley's wavewing		3	2
Downingia bacigalupii	Bacigalupi's downingia		4	2
Eatonella nivea	white eatonella		4	3
Epipactis gigantea	chatterbox orchid		3	3
Eriogonum ochrocephalum var. calcareum	calcareous buckwheat		3	2
Eriogonum shockleyi var. packardiae	Packard's buckwheat		3	2
Eriogonum shockleyi var. shockleyi	Shockley's matted buckwheat		3	2
Ipomopsis polycladon	spreading gilia		3	2
Penstemon janishiae	Janish's penstemon		3	2
Sporobolus asper	tall dropseed		3	1
Stanleya confertiflora	Malheur princesplume		2	1
Teucrium canadense var. occidentale	American wood sage		3	2
Texosporium sancti-jacobi	woven-spore lichen	SC	2	2

1) US Fish and Wildlife Service status: SC = species of concern.

2) Bureau of Land Management types: 2 = rangewide/globally imperiled - high endangerment, 3 = rangewide/globally imperiled - moderate endangerment, 4 = species of concern.

3) Idaho Natural Heritage Program ranks: 1 = Critically imperiled because of extreme rarity or because some factor of its biology makes it especially vulnerable to extinction (typically 5 or fewer occurrences), 2 = Imperiled because of rarity or because other factors demonstrably make it very vulnerable to extinction (typically 6 to 20 occurrences), 3 = Rare or uncommon but not imperiled (typically 21 to100 occurrences).

3.3.1. Federally Listed Plant Species

3.3.1.1. Ute ladies'-tresses

Status

Spiranthes diluvialis (Ute ladies'-tresses) was listed as threatened under the Endangered Species Act by the USFWS in 1992 (Federal Register, Vol. 57, No. 12). The orchid was discovered in Idaho in 1996 along the South Fork of the Snake River, downstream of Palisades Dam. Currently, over 20 small populations have been identified in this area. Other populations occur in Utah, Colorado, Wyoming, Washington, Montana, Nevada, and Nebraska.

Habitat Requirements

Ute ladies'-tresses is found in moist soils near springs, lakes, or perennial streams at elevations of 1,800-7,000 feet. It may also occur in meadows or near riparian woodlands (USFWS 1995a).

Occurrence in Project Area

Marginal habitat was found along several riparian corridors for *Spiranthes diluvialis*. However, this habitat was found to be heavily degraded, greatly reducing the potential for occurrence of the species. No populations of *S. diluvialis* were found in the project area. In fact, no populations are reported in proximity to the project area (ICDC 2002).

3.3.1.2. Slickspot Peppergrass

Status

The USFWS proposed listing *Lepidium papilliferum* (slickspot peppergrass) as an endangered species on July 15, 2002 (Federal Register, Vol. 67, No. 135). This species is found along the Snake River Plain and Owyhee Plateau in Ada, Canyon, Gem, Elmore, Payette, and Owyhee Counties. There are currently 88 known existing or historical occurrences of *Lepidium papilliferum* (Moseley 1994, Mancuso 2000, ICDC 2002; as cited in USFWS 2002). The total amount of habitat containing interspersed slickspots that have existing occurrences of *L. papilliferum* is about 12,356 ac (USFWS 2002).

This species is threatened by a variety of activities, including urbanization, gravel mining, irrigated agriculture, habitat degradation due to livestock grazing, fire and fire rehabilitation activities, and continued invasion of habitat by non-native plant species (Moseley 1994, Mancuso and Moseley 1998; as cited in USFWS 2002).

Habitat Requirements

Lepidium papilliferum is endemic to sagebrush-steppe habitat at approximately 2,200 ft to 5,400 ft elevation in southwestern Idaho. It is restricted to small areas known as slickspots or miniplayas. These slickspots range from less than 1 m^2 to about 10 m^2 within communities dominated by other plants (Mancuso 1998, as cited in USFWS 2002). These sparsely vegetated microsites are very distinct from the surrounding shrubland vegetation, and are characterized by relatively high concentrations of clay and salt (Fisher et al. 1996, as cited in USFWS 2002). The microsites also have reduced levels of organic matter and nutrients due to the lower biomass production compared to surrounding habitat areas. The majority of the slickspot peppergrass population is expressed as a persistent seed bank, with above ground expression of the plant dependent on annual precipitation patterns. Slickspot peppergrass seeds may remain viable for up to 12 years.

Occurrence in Project Area

Numerous occurrences of slickspot habitats were found in the western part of the project area, although most were degraded from cattle grazing and other disturbances. These slickspots, although lightly vegetated, contained a large proportion of weedy species—primarily *Lepidium*

perfoliatum (clasping peppergrass). Each of these slickspots was searched intensively to determine the presence of *L. papilliferum*, with negative results.

3.3.2. BLM Sensitive Plant Species

Idaho Power surveys located 27 new occurrences of *Astragalus atratus* var. *inseptus* (mourning milkvetch), a plant species on the BLM Sensitive list. In addition, the surveys relocated one previously known occurrence of a BLM Sensitive species within the ROW—*Eriogonum shockleyi* var. *shockleyi* (matted cowpie buckwheat).

***Astragalus atratus* var. *inseptus* (mourning milkvetch):** This species is endemic to the north edge of the Snake River Plain, with known occurrences in Blaine, Camas, Elmore, Gooding, and Lincoln counties in Idaho. Habitats include grassy *Artemisia tridentata* communities on stony flats with clay and clay-loam soils below 4,290 ft (Barneby 1989, Beck and Cole 2000).

This taxon is currently ranked as a species of concern by the Snake River Basin Field Office of the USFWS and as a sensitive species by the BLM. The ICDC lists it as globally secure, and, in Idaho, as rare or uncommon, but not imperiled. The variety is listed as rare or uncommon across the range of the species.

The occurrences were found along the Boise Bench to Midpoint #1, # 2, and #3 at elevations ranging from 3,150 to 4,840 ft. Several occurrences were extensive, with the largest running 2 mi along the corridor and covering a total area of 67 acres (within the ROW). The smallest occurrence covered less than three square feet. The occurrences were found primarily in *Artemisia tridentata/Poa secunda-Bromus tectorum* shrub-steppe habitat. Shrub cover for most of the occurrences was relatively high, and the individual *A. atratus* v. *inseptus* plants were often found under the shrub canopies. Common associates included *Purshia tridentata*, *Allium acuminatum* (tapertip onion), *Balsamorhiza hookeri* (Hooker's balsamroot), *Bromus tectorum*, and *Taeniatherum caput-medusae* (medusahead wildrye).

***Eriogonum shockleyi* var. *shockleyi* (matted cowpie buckwheat):** The one previously known occurrence of *E. shockleyi* v. *shockleyi* within the project area is located along the Boise Bench to Midpoint #1 line on the west rim of the Snake River Canyon about 2 mi northwest of the town of Hagerman. According to ICDC Element Occurrence data, the population contains 369 individual plants and covers approximately 2 acres.

Only a small portion of this occurrence (approximately 1,076 ft^2) is located within the Boise Bench to Midpoint #1 line ROW. Approximately 35 individual genets are present within the ROW, all located to the north of the centerline. The *Eriogonum shockleyi* v. *shockleyi* plants are growing in sparsely vegetated openings, surrounded by *Artemisia tridentata* steppe habitat. The openings are covered with white, caliche/calcified rocks forming a pavement-like surface.

3.4. Threatened, Endangered, and Special Status Wildlife Species

The USFWS reported seven listed threatened, endangered, or candidate animal species either known to occur or have the potential to occur in the project area (Table 1-3). In addition to federally listed species, the BLM maintains a list of sensitive species that it must consider when making management decisions. Table 3-3 is based on the BLM list (specifically for species with potential to occur within the project area) and on any additional species that were listed with special concern status from the USFWS species list. Species on the USFWS lists, but not expected to be found in the project area, were not included.

Table 3-3. State and federal designations for wildlife species of special concern known, or suspected to occur, in the Boise to Borah transmission lines project area.

Taxon / species	Scientific name	FWS[1]	BLM[2]	IDFG[2]	INHP[3]
Amphibian/ Reptile					
N. Leopard frog	*Rana pipiens*	SC	S	SSC	3
Western toad	*Bufo boreas*	W/SC	S	SSC	4
Woodhouse's toad	*Bufo woodhousii*	W	S		3
Ground snake	*Sonora semiannulata*	SC	S	SC	3
Mohave black-collared lizard	*Crotaphytus bicinctores*	SC	S	SC	2
Longnose snake	*Rhinocheilus leconti*	W	S	SSC	3
Bird					
Trumpeter swan[4]	*Cygnus buccinator*	W	S	SSC	1
American white pelican[4]	*Pelecanus erythrorhynchos*		S	SSC	1
Black tern[4]	*Chlidonias niger*		S	SSC	2
White-faced ibis[4]	*Plegadis chihi*		S	P	2
Long-billed curlew	*Numenius americanus*	SC		P	3
Sage grouse	*Centrocercus urophasianus*	SC	S		
Mountain quail	*Oreortyx pictus*	SC	S	SSC	2
Ferruginous hawk	*Buteo regalis*	W	S	SSC	3
Peregrine falcon	*Falco peregrinus*	DM		E	1
Prairie falcon	*Falco mexicanus*		S		
Bald eagle	*Haliaeetus leucocephalus*	LT		T	3
Burrowing owl	*Athene cunicularia*	SC		P	3
Yellow-billed cuckoo	*Coccyzus americanus*	CE	S	SSC	3
Willow flycatcher	*Empidonax traillii*		S		
Loggerhead shrike	*Lanius ludovicianus*	SC	S	SSC	3
Brewer's sparrow	*Spizella breweri*		S		

Taxon / species	Scientific name	FWS[1]	BLM[2]	IDFG[2]	INHP[3]
Sage sparrow	*Amphispiza belli*		S		
Grasshopper sparrow	*Ammodramus savannarum*		S		
Mammal					
Townsend's big-eared bat	*Corynorhinus townsendii*	SC	S	SSC	2
Western pipistrelle	*Pipistrelus hesperus*	W		SSC	1
Spotted bat	*Euderma maculatum*	SC	S	SC	2
Pygmy rabbit	*Brachylagus idahoensis*	W	S	SSC	3
Kit fox	*Vulpes macrotis*	W	S	SSC	1
Gray wolf	*Canis lupus*	XN		E	1
Invertebrates					
Idaho springsnail	*Pyrgulopsis idahoensis*	LE			1
Utah valvata snail	*Valvata utahensis*	LE			1
Snake River Physa snail	*Physa natricina*	LE			1
Banbury Springs limpet	*Lanx spp.*	LE			1
Bliss Rapids snail	*Taylorconcha serpenticola*	LT			1

1) US Fish and Wildlife Service status: CE = candidate endangered, DM = delisted with monitoring, LE = listed endangered, LT = listed threatened, SC = species of concern, W = watch species, XN = experimental research of a listed endangered

2) Idaho Department of Fish and Game and Bureau of Land Management ranks: E = endangered, GSC = game species of special concern, P = protected, S = sensitive, SSC = species of special concern, T = threatened

3) Idaho Natural Heritage Program ranks: 1 = critically imperiled, 2 = imperiled because of rarity, 3 = very rare and local throughout its range or found locally, 4 = apparently secure

4) Species identified as at medium to high risk of collision by SAIC (2000).

3.4.1. Listed and Candidate Wildlife Species

3.4.1.1. Bald Eagle

Status

The bald eagle is a federally threatened species that was proposed for downlisting by the USFWS in 1999 (64 FR 128, July 6, 1999). Populations have recovered significantly since it was listed as endangered in 1978. In Idaho the number of occupied territories has increased steadily since 1979 and was at 113 in 2000 and 2001 (Sallabanks 2002).

Habitat Requirements

In Idaho, bald eagles are most often found along rivers, lakes, and marshes with nearby tall trees or cliffs for perching, roosting, and nesting. There are no bald eagle nests near the project area (Sallabanks 2002, ICDC 2002). However, eagles winter throughout the Snake River Plain wherever there are ice-free rivers and lakes from about November through March.

Occurrence in Project Area

Wintering bald eagles are known to regularly use three main areas near the transmission lines; Barber Pool on the Boise River, the Snake River at the Boise Bench to Midpoint #1 line, and Lake Walcott near the Midpoint to Borah #2 line.

Barber Pool is likely the most important habitat for wintering bald eagles in the Boise River corridor (Kaltenecker et al. 1994). Barber Pool parallels the Boise Bench to Midpoint #1, #2, and #3 where they come into the Boise substation. The current roost, which is used by up to 30 eagles (Kaltenecker et al. 2003), is 1 mi from the Boise Bench to Midpoint #3 line, about 2.5 mi from the Boise substation. There are two regularly used perch trees within 1,312 ft (400 m) of the Boise Bench to Midpoint #3 line and several more within 1 mi. The lines do not cross the Boise River.

In the mid-Snake River area, the Boise Bench to Midpoint #1 line passes through wintering bald eagle areas near Bliss. At the highest count, Holthuijzen (1995a) found less than 30 bald eagles wintering along the Snake River near the four Snake River crossings of the Boise Bench to Midpoint #1 line. According to ICDC records there are no roosts within 12 mi of the line. However, there may be a roost near Thousand Springs, about 5 mi south of the Boise Bench to Midpoint #1 line (Holthuijzen 1995a).

Bald eagles are common winter and spring residents at Minidoka National Wildlife Refuge, which encompasses Lake Walcott on the Snake River. The Midpoint to Borah #2 line parallels the lake for a few miles, coming within 1,150 ft of it for a short span (at this point it is 300 ft from the refuge boundary). The ICDC does not have any records of roosts near the line.

3.4.1.2. Gray Wolf

Status

In the Rocky Mountain region gray wolves are listed as threatened, but those in the Yellowstone and central Idaho reintroduction areas are designated as "non-essential, experimental" populations. This designation allows federal and state officials additional flexibility in managing this population, although federal agencies are still required to confer with the USFWS if their actions are likely to adversely affect the continued existence of gray wolves (50 CFR 17.83). The wolf is increasing throughout the Rocky Mountain Recovery Area. Wolves in the Northern Rocky Mountains (Idaho, Montana and Wyoming) continue to increase in distribution and numbers. There were an estimated 251 wolves in the state of Idaho at the end of 2001 (USFWS 2003).

Habitat Requirements

Wolves were once found throughout Idaho but are currently restricted to mostly forested habitat. They require areas with low human population, low potential for human interactions, high prey densities, and secluded denning sites (Groves et al. 1997). Wolf packs typically occupy a specific territory and defend that territory from other wolves. Their annual range may reach several hundred km^2. In addition individuals may move several hundred km, especially when dispersing (Groves et al. 1997).

Occurrence in Project Area

The closest known wolf pack to the project area is about 34 mi north of the Boise Bench to Midpoint #3 line (40 mi to the north of Shoshone, Wildhorse pack) (USFWS 2003). Wolves might range into the project area on an extremely rare basis. The low elevation of the project area, in general, indicates that the habitat and prey base the wolf needs would not be present.

3.4.1.3. Aquatic Snails

Status

Four aquatic snails classified by the USFWS as endangered species (Federal Register, Vol.57, No. 240) have the potential to be in the project area: the Idaho springsnail, the Utah valvata snail, Banbury Springs limpet, and the Snake River Physa snail. The USFWS also determined a threatened status for the Bliss Rapids snail, which is known to be in the project area. These species have declined over all but a small fraction of their historical range, primarily due to fragmentation of remaining free-flowing habitats and deteriorating water quality (USFWS 1995b).

Habitat Requirements

Ecologically, the five listed species in the project area share many characteristics, and in some locations two or more can be found sharing the same habitat (USFWS 1995b). Their habitat requirements generally include cold, clean, well-oxygenated flowing water of low turbidity. Despite these affinities, each species has slightly different habitat preferences. The Idaho springsnail and Snake River physa are found only in the free-flowing mainstem Snake River. The Bliss Rapids snail and Utah valvata occur in both cold-water springs and mainstem habitats, while the Banbury Springs lanx only occurs in cold-water springs.

Occurrence in Project Area

These five snail species are currently restricted to a few isolated free-flowing reaches or spring alcove habitats in the middle Snake River. The "middle" Snake River is defined as extending from C.J. Strike Reservoir (river mile 517.6) upstream to Milner Dam (river mile 639.1). All five species have the potential to occur in the vicinity of the Boise Bench to Midpoint #1 line Snake River crossings, either in the Snake River or associated springs.

3.4.1.4. Yellow-billed Cuckoo

Status

The yellow-billed cuckoo was classified by the USFWS as a candidate for listing as a threatened or endangered species on July 18, 2001 (Federal Register, Vol. 66, No. 143). The USFWS declared it warranted listing as threatened but it was precluded by higher priority species. Western populations suffered catastrophic range reductions in the twentieth century due to loss of riparian habitat (Hughes 1999). It is an accidental summer visitor to southern Idaho and is considered a peripheral species (Engle and Harris 2001).

Habitat Requirements

The cuckoo prefers open woodland with clearings and low, dense, scrubby vegetation; often associated with watercourses (Hughes 1999). Recommended habitat includes dense stands of cottonwood and willow with an average tree height of 10-15 m (Engle and Harris 2001). With European settlement riparian vegetation has been greatly reduced due to livestock grazing, land use conversion, burning, stream channelization, and flood control projects (Hughes 1999).

Occurrence in Project Area

Most Idaho records of yellow-billed cuckoos are of isolated, non-breeding individuals. Five cuckoos were heard on the South Fork of the Snake River between Blackfoot and American Falls Reservoir on the Fort Hall Indian Reservation in an ungrazed mixed-cottonwood stand in 1985; and on June 22, 1985 a possible migrant was heard in southwest Idaho at Swan Falls Dam, 15 mi south of Boise (Center for Biological Diversity, CBD 1998). A mail survey by Dr. Kerry Reese of the University of Idaho revealed only 14 records between 1970-1986, most from the southern part of the state. Records were from Canyon, Ada, Elmore, Minidoka, and Twin Falls counties. Several birds were reported on Lawyers Creek in Lewis County in 1979 and six were reported at Cartier Wildlife Management Area in 1980. No nesting attempts or young were observed, and, as a result, breeding populations of yellow-billed cuckoos in Idaho are believed to be extirpated (CBD 1998).

The nearest sighting of the species to the transmission lines was May 23, 1985 on the South Fork of the Boise River, 7.5 mi north of the Boise Bench to Midpoint #1 line (ICDC 2002). This species occupies forested riparian areas with thick understory. The species would not be expected to occur in the project area, as there are no significant amounts of riparian habitat on federal lands along the lines.

3.4.2. Other Special Status Species

In addition to the listed and candidate species discussed in section 3.4.1, several other special status wildlife species have the potential to occur in the project area (Table 3-3). A species' potential to be found in the project area was based on locations from the ICDC (2002), recent distribution maps (Groves et al. 1997, Digital Atlas of Idaho, DAI 2003) and wildlife data from previously conducted Idaho Power wildlife studies (Idaho Power 1995, Carpenter and Dumas 2002, Dumas and Carpenter 2002, Turley and Holthuijzen 2002). The following section discusses each species' habitat requirements, reasons for decline or concern, and the likelihood and location of occurrence within the project area. When not otherwise specified the "project area" includes only the transmission-line rights-of-way (ROW). For state and federal status rankings the reader is referred to Table 3-3.

3.4.2.1. Amphibians and Reptiles

The **northern leopard frog** (*Rana pipiens*) prefers marshes and meadows from which they may range into hay fields and grassy woodlands. Anecdotal information exists for their decline in Idaho (Groves et al. 1997). Threats include habitat loss, competition/predation by introduced species, and agricultural contaminants. This species is very rare and has an extremely low to no

potential to occur in the ROW. Although habitat is present throughout the Snake River basin, ICDC records are east of the project area.

Woodhouse's toads (*Bufo woodhousii*) are restricted to the western portion of Idaho, particularly along the Snake River and its associated drainages. They are typically found in habitats such as prairies, agricultural areas, and brushy flats often associated with a water source. The water source may vary from irrigation ditches, ponds, and small lakes to backwaters of the Snake River. Even though there is generally water in the area, they may forage quite a distance from the water source where they mate and lay eggs (DAI 2003). This species is not tracked by the ICDC and locations within the project area are unknown. Distribution maps indicate they could be present near the Boise Bench to Midpoint #1 line near the Snake River (Groves et al. 1997).

Western toads (*Bufo boreas*) are largely terrestrial but can generally be found within a fair proximity to water and move to water for breeding (Nussbaum et al. 1983). They use a wide variety of habitats including desert springs and streams, meadows, and woodlands, ponds, lakes, and reservoirs. The species has adapted to human-modified environments such as irrigation canals, but has disappeared from areas in Oregon where it was once common (Csuti et al. 1997). Western toads are likely common in appropriate habitat of the project area. It is likely that the species is declining south of the Snake River, but is stable elsewhere (Engle and Harris 2001). Genetic studies indicate that the species could be separated into at least two species or subspecies. Subpopulations in the project area would be considered stable (Engle and Harris 2001). The ICDC has records near the Boise Bench to Midpoint #1 line on the Snake River and at the eastern end of the Midpoint to Borah #1 and #2 lines.

Long-nosed snakes (*Rhinocheilus leconti*) have been reported from Canyon, Ada, Elmore, and Owyhee counties in Idaho (Diller and Wallace 1981). The species was collected in areas adjacent to various agricultural lands, rocky and sandy areas, open desert, and riparian habitats (Diller and Wallace 1981). The snake appeared to be more abundant on the south side of the Snake River than on the north side (Diller and Johnson 1982). The ICDC has records in the project area near Gooding and Bliss (the Boise Bench to Midpoint #1, #2, #3 lines). Conversion of shrub-steppe to exotic annual grasslands is thought to have played a role in declines observed in the Snake River Birds of Prey Natural Area (Engle and Harris 2001).

Ground snakes (*Sonora semiannulata*) are found in arid habitats usually having loose or sandy soil, ranging from rocky areas (talus slopes, canyon rims and outcroppings) to low desert shrub areas. In Idaho, ground snakes are restricted to the southwestern portion of the state, along the Snake River and surrounding drainages (DAI 2003). The closest ICDC record to the project area is just downstream from the farthest downstream Snake River crossing of the Boise Bench to Midpoint #1 line (Engle and Harris 2001). Threats to ground snakes include habitat loss and possibly the collection of rock for landscaping.

Mojave black-collared lizards (C*rotaphytus bicinctores*) are associated with arid habitats, and a critical component of the habitat appears to be the presence of rocks and boulders. The surrounding vegetation is generally sparse. Mojave black-collared lizards are found in the southwestern portion of the state, along the Snake River Plain and surrounding Owyhee foothills (DAI 2003). Most ICDC records for the species are southwest of the project area but there are

old records from the Snake River just downstream from the farthest downstream Snake River crossing of the Boise Bench to Midpoint #1 line (Engle and Harris 2001). Presently the range has been reduced to a limited area within Owyhee County. This species is mostly threatened by collection, off-road vehicle use, and land use changes.

3.4.2.2. Waterbirds

Four waterbird species of special concern have the potential to be present in the project area where transmission lines are near, or cross, major water bodies. This includes the western end of the Boise Bench to Midpoint #1, #2, and #3 lines at the Boise River, near the Boise Bench to Midpoint #1 line at the Snake River crossings, near the Midpoint to Borah #2 line at Lake Walcott, and at the end of the Midpoint to Borah #1 and #2 lines near the Snake River at American Falls. Most of the species would not be nesting near the lines but may use the river areas for breeding season foraging and during migration or winter periods.

The **trumpeter swan** (*Cygnus buccinator*) was formerly abundant and geographically widespread. However, its numbers and distribution were greatly reduced during the early fur trade and European settlement (Mitchell 1994). The trumpeter swan breeds in areas of eastern Idaho, well east of the project area (Groves et al. 1997). It prefers emergent vegetation in freshwater and winters along shallow, slow moving water. It is a common winter visitor to White Arrow Pond (pers. comm., Gary Wright, BLM Wildlife Biologist). This pond is located about 8 mi north of Bliss, Idaho. The Boise Bench to Midpoint #3 line passes within less than a mile of White Arrow Pond. The swan also likely occurs during winter near the Boise Bench to Midpoint #1 line crossings of the Snake River.

The **American white pelican** (*Pelecanus erythrorhynchos*) needs shallow water for foraging, such as open areas within marshes, along lake or river edges, on or below rapids, and less commonly in deep water of rivers and lakes (Evans and Knopf 1993). The species requires both permanent water and isolation from human disturbance and mammalian predators for successful breeding (Groves et al. 1997). Idaho has had nesting colonies of white pelicans at Lake Walcott, near the Midpoint to Borah #2 line, on the Snake River near Glenns Ferry, downstream of the Boise Bench to Midpoint #1 line crossing, and east of the project area on the Blackfoot Reservoir (Trost and Gerstell 1994). Between 1990 and 1992, Holthuijzen (1995b) surveyed nesting colonial waterbirds in the Hagerman area (in the area of the Boise Bench to Midpoint #1 line Snake River crossings). Pelicans were commonly observed in the study area, but they did not nest there.

The **black tern** (*Chlidonias niger*) requires aquatic habitats with extensive stands of emergent vegetation and large areas of shallow open water (DeGraaf and Rappole 1995). Black terns nest in scattered marshes of eastern Idaho, including the Lake Walcott area near the Midpoint to Borah #2 line. Overall state numbers are low (68−91 nesting pairs), but the population appears to be stable (Trost and Gerstell 1994). The species migrates along the Snake River in spring and fall (USDI 1995). Non-nesting individuals were observed in the Hagerman Valley (Holthuijzen 1995b).

The **white-faced ibis** (*Plegadis chihi*) reaches its northern limit of breeding at the northern boundary of the Snake River Plain (Trost and Gerstell 1994). It inhabits primarily freshwater

wetlands, especially *Typha* spp. (cattail) and *Scirpus* spp. (bulrush) marshes, although it also feeds in flooded hay meadows and agricultural fields (Ryder and Manry 1994). In the arid Great Basin region, the white-faced ibis breeds in semi-permanent wetlands, which are susceptible to naturally-occurring droughts and floods. The white-faced ibis is highly nomadic and able to compensate for poor conditions at traditional colony sites by moving among colonies and rapidly colonizing newly available wetlands (Earnst et al. 1998). The number of colonies in Idaho has increased from five to seven from 1984 through 1994 (Trost and Gerstell 1994), at which point the total number of nests in Idaho was estimated between 3,300 and 4,700. There are an unknown, but low, number of nests at Lake Walcott (Dumas and Carpenter 2002). This species is known to forage at the terminus of the Midpoint to Borah #1 and #2 lines, which is not on BLM land. In addition, non-nesting individuals were observed in the Hagerman Valley (Holthuijzen 1995b).

3.4.2.3. Upland birds

The **long-billed curlew** (*Numenius americanus*) is a grassland nester in the project area from late March through mid-July. It prefers open, recently-grazed shrub-steppe containing short vegetation near water for nesting and it often feeds in agricultural areas (Groves et al. 1997). The ICDC lists only three locations from the 1980s that are within 0.6 mi of the lines. However, this species is no longer tracked by the ICDC (Engle and Harris 2001) and distribution maps indicate it could be present throughout the project area (Groves et al. 1997). There are no BLM designated nesting areas near the transmission lines.

The **mountain quail** (*Oreortyx pictus*) was petitioned for listing with the USFWS in 2000. The petitioners requested that mountain quail that historically occupied portions of Idaho, northern and western Nevada, eastern Oregon and southeastern Washington be listed as a distinct population segment (DPS) because of dramatic population declines resulting from extensive loss of habitat. On January 22, 2003 the USFWS ruled that there was insufficient evidence that quail in these areas constitute a DPS for the species. In Idaho, mountain quail historically occupied narrow, riparian habitats in the lower elevations of the Boise, Snake, Salmon, and Clearwater river drainages (Murray 1938; Ormiston 1966; Brennan 1989; Robertson 1989 and 1990). Recent surveys indicate mountain quail are commonly found only in the lower Salmon River drainage. There is a potential for mountain quail to occur very rarely in the project area from King Hill Creek west to Boise in riparian drainages (Groves et al. 1997). King Hill Creek, near the Boise Bench to Midpoint #3 line, was identified by the Shoshone Field Office BLM as a potential reintroduction site (USDI 2002). No quail have been documented here since the late 1970s. This area is about 25 mi east of an extensive habitat range.

Western sage grouse (*Centrocercus urophasianus*) were historically abundant in shrub-steppe habitats of the western United States but have exhibited population declines throughout their range. Population declines are largely attributed to the loss and degradation of sagebrush habitats. Other factors influencing declines are livestock grazing (Willis et al. 1993, Beck and Mitchell 2000), changes in natural fire regimes (Fischer et al. 1996b, Pyle and Crawford 1996, Nelle et al. 2000), hunting (Crawford 1982), and predation (Willis et al. 1993). Sage grouse rely on sagebrush habitats throughout the year. The eastern subspecies, whose range intersects the Boise to Borah transmission lines, has exhibited population declines, but is considered stable (Drut 1994).

Most of the documented sage grouse leks near the project area are between Mountain Home and Shoshone. There are 7 historical leks within 0.62 mi (1 km) of project area lines, none of which were active in 2000 (Bruce Palmer, IDFG pers. comm.) or 2002 (Rocklage and Edelmann 2002). The leks are between 1,800 to 3,150 ft from either the Boise Bench to Midpoint #2 or #3 line. These leks are all within 7.5 mi of Blair Trail Reservoir, north of King Hill. The area north of the Boise Bench to Midpoint #3 line in the Bennett Hills is considered a sage grouse source habitat and a stronghold for sage grouse (USDI 2002). The transmission lines intersect 24 mi of key habitat, most of it (18 mi) along the Boise Bench to Midpoint #3 line (Dumas and Carpenter 2002).

3.4.2.4. Raptors

In addition to the bald eagle, other raptor species of special concern for the Boise-to-Borah lines are the peregrine falcon (*Falco peregrinus*), prairie falcon (*Falco mexicanus*), ferruginous hawk (*Buteo regalis*), and burrowing owl (*Athene cunicularia*). Locations noted below are from ICDC records and Idaho Power line-inspection records, unless otherwise noted.

The **peregrine falcon** is an Idaho endangered species. Peregrine falcon populations decreased due to pesticide accumulation that caused eggshell thinning. The species is now recovering and objectives for the minimum number of breeding pairs and productivity have been met or exceeded. On August 25, 1999 the peregrine falcon was removed from the federal list of endangered wildlife but will continue to be monitored through 2004. Critical nesting habitat components for this species are suitable nest sites, usually cliffs, overlooking open areas with an adequate food supply (Csuti et al. 1997). There are no nesting areas near the transmission lines (ICDC 2002). Peregrines may use portions of the project area with suitable prey for foraging during fall and spring migrations.

In Idaho the **prairie falcon** breeds on cliffs in shrub-steppe and dry mountainous habitat, and winters at lower elevations. In 1990 Holthuijzen (1995c) documented three nesting territories on Snake River cliffs between Bancroft Springs and Lower Salmon Falls Dam (which includes three of the four Boise Bench to Midpoint #1 line river crossings). This number is similar to that documented by the BLM from 1976-1978 (two to five nests, Holthuijzen 1995c). None of the nests were within 0.25 mi (400 m) of the line crossings. The species is fairly common in southwest Idaho and could be expected to nest in any areas where project lines cross rocky canyons, particularly if tall cliffs are present.

The **ferruginous hawk** breeds in arid, semi-arid, and grassland regions and is reported to be in decline throughout much of their range. This decline has been attributed to the conversion of grasslands for agricultural purposes, loss of nesting sites, control of natural fires, declines in prey populations, and human disturbances (Harlow and Bloom 1987, Marshall et al. 1996). It is especially sensitive to human activity near its nest site (White and Thurow 1985). This species will nest on the ground as well as on utility structures, tall rock outcrops, and artificial nesting structures.

In April 1998 Idaho Power surveyed the Boise Bench to Midpoint #2 and #3 and the Midpoint to Borah #2 lines for raptor nests. The Boise Bench to Midpoint #2 and #3 lines each had one occupied ferruginous hawk nest and five other poles had perched birds (Idaho Power unpubl.

data). In addition, there were 14 nest locations within 1 mi of the Boise Bench to Midpoint #1 line in the 1990s (ICDC 2002). These occur primarily on towers of a 500-kV line owned by Pacific Power and Light Co.

The **burrowing owl** nests and forages in open grasslands, deserts, agricultural lands, and urban areas (Marti and Marks 1987). The Idaho population is stable (Marti and Marks 1987). Burrowing owls appear to do well in disturbed habitats and may be one of the raptors least affected by man-made environmental changes. However, large-scale conversion of sagebrush-steppe habitat creates highly unfavorable conditions for the species. Distribution maps indicate it could be present throughout the project area (Groves et al. 1997, DAI 2003) and the ICDC has one record each near the Boise Bench to Midpoint #1 and #2 lines.

3.4.2.5. Riparian passerines

The **willow flycatcher** (*Empidonax traillii*) occurs in a variety of habitats ranging from brushy fields to willows, thickets along streams, as well as the edges of gallery forests along rivers or streams (DeGraaf and Rappole 1995). These birds are neotropical migrants that leave their breeding grounds to go to Mexico or further south each winter. It uses riparian habitat for nesting. Declines of this species are largely thought to be due to loss or degradation of riparian habitat. The species is not tracked by the ICDC so nesting locations near the ROW are unknown. Dumas and Carpenter (2002) considered the willow flycatcher rare with low potential to occur in appropriate habitat in the ROW near all lines.

3.4.2.6. Shrub-steppe passerines

This section includes three shrubland inhabitants that are dependent on sagebrush and related shrub-steppe species for nesting: the **loggerhead shrike** (*Lanius ludovicianus*), **Brewer's sparrow** (*Spizella breweri*), and **sage sparrow** (*Amphispiza belli*). All are BLM sensitive species but only the shrike is tracked by the ICDC. Locations for these species in the project area are largely unknown. Distribution maps in Groves et al. (1997) indicate all would be found throughout the project area in suitable shrubland habitat. The conversion of sage shrub-steppe habitat to exotic annual grassland is the greatest threat to these species.

The loggerhead shrike appears to be the most adaptable of the three species as it also uses many other open habitat types. This species nests along ecotones, in grasslands, and in other open habitats. It does not avoid human developments as it is commonly found near fences, old orchards, mowed roadsides, cemeteries, golf courses, and agricultural fields (Yosef 1996).

3.4.2.7. Grassland passerines

The **grasshopper sparrow** (*Ammodramus savannarum*) is a BLM sensitive species found in prairies, old fields, open grasslands, cultivated fields, and savannas (Groves et al. 1997). In Idaho it is an uncommon to rare breeder that could be present throughout the project area in suitable habitat.

3.4.2.8. Mammals

The **Townsend's big-eared bat** (*Corynorhinus townsendii townsendii*) is widely distributed throughout the intermountain region. It uses juniper/pine forests, shrub-steppe habitats, deciduous forests, and mixed coniferous forests. The species does not migrate, but remains at hibernacula from October through February. Townsend's big-eared bats are one of the better-studied bats despite the fact that it is relatively rare and populations are declining (Csuti et al. 1997). There are two records for the species near the project area. One is about 4 mi west of the western terminus of the lines in Boise. The second is about 1 mi south of the Boise Bench to Midpoint #3 line at the McKinney Butte nominated ACEC/Research Natural Area, with 13 caves. Significant hibernating bat populations of Western small-footed myotis *(Myotis ciliolabrum)* and Townsend's big-eared bat have been documented in several of the caves since 1987. At least one cave is suspected to be a maternity roost (USDI 2002). The Idaho population of Townsend's big-eared bats is thought to be declining with human disturbance as the greatest cause (Engle and Harris 2001).

The **western pipistrelle** (*Pipistrellus hesperus*) is found in desert flats and rocky canyons. It roosts in caves, on cliffs, and in crevices near water (Groves et al. 1997). Very little specific information is available on this species in Idaho. ICDC has one record in the project area between the Boise Bench to Midpoint #1 and #2 lines near Gooding (Engle and Harris 2001). The greatest threat to the species is disturbance of roost sites, especially maternity colonies.

Spotted bats (*Euderma maculatum*) are found in various habitats from desert to montane coniferous forest, up to 8,000 ft in elevation. They have been collected in desert pinion-juniper woodlands near sandstone cliffs or over streams and water holes in coniferous forests with rock cliffs nearby. Individuals normally roost in deep rock crevices of canyon and cliff walls but specific roost characteristics are not well documented. The distribution of spotted bat populations is highly patchy, likely as a result of the habitat requirements of this species. In Idaho, the majority of the populations appear to occur in the southwestern corner of the state in canyons of Owyhee County (DAI 2003). The closest records to the project area are along the Snake River downstream of the Boise Bench to Midpoint #1 line. Spotted bats use native sagebrush habitat for foraging so sagebrush loss or fragmentation may be their greatest threat (Engle and Harris 2001).

The **pygmy rabbit** (*Brachylagus idahoensis*) is endemic to the Great Basin and surrounding intermountain areas. It appears to be an extreme habitat specialist preferring structurally diverse stands of sagebrush habitats with a forb component and sandy soils (Heady et al. 2001). This is a rare species with low potential to occur throughout the project area in sagebrush habitat. Specifically, the rabbit has predicted habitat in the project area in the vicinity of Minidoka to American Falls and King Hill to Boise (University of Idaho 2003). There are a few, dated, rabbit locations about 2.5 mi from the Midpoint to Borah #1 line and one location about 9 mi south of the Boise Bench to Midpoint #1 line near Hagerman (ICDC 2002). There are many ICDC locations for the rabbit about 3.4 mi from the Midpoint to Borah #2 line. The major threat to the species is the loss of sagebrush in areas with suitable deep soils (Engle and Harris 2001).

The **kit fox** (*Vulpes macrotis*) is a desert species that reaches its northern limit in southeastern Oregon (Csuti et al. 1997). It is considered a peripheral species in Idaho. There are only 12 recorded locations in Idaho and only 3 since 1992 (Engle and Harris 2001). One record was

within 3 mi of the Boise Bench to Midpoint #2 line. This peripheral species has extremely low to no potential to occur in the project area.